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**From:** Andrae, Bill/MKE [William.Andrae@jacobs.com]  
**Sent:** 6/1/2021 9:38:32 PM  
**To:** Giancarlo, Mary Beth [Giancarlo.Marybeth@epa.gov]  
**CC:** Skwarski, Alison/DET [Alison.Skwarski@jacobs.com]; Klinkhamer, Christopher [Klinkhamer.Christopher@epa.gov]  
**Subject:** FW: Gorge Dam Bulk Sediment Collection and Geotechnical Testing Budgetary Cost Request  
**Attachments:** Gorge Dam Sample Locations.pdf; Figure 2-2 Sediment Sampling Locations (1).pdf; cuyahoga falls sed logs.pdf

Mary Beth – As we discussed on the phone, below is the information we sent a couple drillers requesting budgetary costs for performing the collection of bulk sediment; however, their scope also includes geotechnical testing and sampling all the way to bedrock. In addition to the geotechnical tests listed below, I think GPD and CoA would also like ASTM D1586 Standard Penetration Testing and ASTM D7363 Laboratory Unit Weight Testing completed.

For budgeting purposes, we just need to know approximately how many samples GPD/CoA think they need.

Cheers!

Bill

**Bill Andrae** | Jacobs | Design Manager / Environmental Engineer  
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**From:** Andrae, Bill/MKE  
**Sent:** Friday, May 21, 2021 3:22 PM  
**To:** dknox@coleman-engineering.com  
**Cc:** Skwarski, Alison/DET <Alison.Skwarski@jacobs.com>  
**Subject:** Gorge Dam Bulk Sediment Collection and Geotechnical Testing Budgetary Cost Request

Hi Dan – As a follow up to Alison's email regarding the bulkhead wall investigation for the Gorge Dam Sediment Remediation Project, we are also in need of a budgetary cost estimate to perform a bulk sediment collection effort at 14 sample locations and the associated geotechnical testing. The bulk sediment collected will be sent to Rutgers University in New Brunswick, NJ. The proposed sample locations and depth of sediment are shown as red dots on the figures in the attached PDF titled "Gorge Dam Sample Locations".

Would you be able to get us something by the end of next week?

Some additional information you'll need includes:

- Water depths in the upstream portion of Cuyahoga River project area are in the range of 2 to 4 feet. Water depths increase downstream toward the Front Street Bridge ranging from 6 to 16 feet in the middle of the river channel. Immediately downstream of Front Street, water depth increases to approximately 20 feet in response to the narrowing of the river and scouring associated around the bridge pier. Water depths further increase approaching the dam, ranging from 18 to 32 feet.
- Sediment depths are shown on the attached figures and can range to up to 30 plus feet. Total drilling depth range (water depth and sediment thickness to bedrock) is estimated at the deepest part to be around 50-60 feet.
- The Front Street Bridge has a clearance of approximately 12 feet
- A crane will be needed to launch the barge or vessel from the
- Bulk sediment volume per location is estimated at 10 gallons and only 1 borehole per location.
- Previous sediment samples were collected to a maximum of 20 feet below top of sediment using vibracore (see Figure 2-2 PDF file).
- Previous boring logs are attached (see "cuyahoga falls sed logs" PDF file)

- Geotechnical testing parameters are listed below.

#### Geotechnical and Index Testing Summary

*Gorge River Sediments Site, Cuyahoga Falls, Ohio*

Geotechnical Test Method	ASTM Designation	Sample Quantity
Grain Size Analysis (Sieve)	ASTM D422	28
Grain Size Analysis (Hydrometer)	ASTM D7928	28
Moisture Content	ASTM D2216	28
Organic Content	ASTM D2974	28
Atterberg Limits	ASTM D4318	28
Specific Gravity	ASTM D854	28

Please let us know if you have any questions.

Cheers!

Bill

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